

Claims

- [c1] A method for forming a network including a plurality of communication devices, a wire network for allowing a plurality of communication transmissions between the communications devices, and at least one connectivity device connected to the wire network, said method comprising the steps of:
- utilizing the connectivity device to bring segments of the wire network together such that the communication devices are interconnected;
 - utilizing the connectivity device to provide communication transmissions by the communications devices with independent paths through the wire network such that communication collisions are reduced;
 - utilizing the connectivity device to regenerate a communication signal such that the distance between the communications device is extended; and
 - utilizing the connectivity device to route communication transmissions by the communications devices through the wire network.
- [c2] A method in accordance with Claim 1 further comprising the steps of:
- connecting one of the connectivity devices to a communications device; and
 - and connecting the communications device to the wire network utilizing the connectivity device.
- [c3] A method in accordance with Claim 1 further comprising the step of configuring the network to include at least one of a network hub device, a network switch device, a network repeater device and a network router device.
- [c4] A method in accordance with Claim 1 further comprising the step of utilizing the connectivity device in a wire network having a topology of at least one of a daisy-chain configuration, a ring configuration, and a star configuration.
- [c5] A method in accordance with Claim 1 further comprising the step of utilizing the connectivity device to enable Single Point of Connect (SPOC) capability within the network.
- [c6] A method in accordance with Claim 1 further comprising the step of utilizing the connectivity device as at least one of a network fault tolerant device and a

network fault tolerant management device.

[c7] A network system comprising:
a plurality of communications devices configured to communicate with each other;
a wire network configured to interconnect said communications devices and allow a plurality of communication transmissions between said communication devices; and
a network connectivity device connected to said wire network, said connectivity device configured to:
bring segments of said wire network together such that said communication devices are interconnected;
provide communication transmissions by said communications devices with independent paths through said wire network such that communication collisions are reduced;
amplify communication transmissions such that the distance between said communications device is extended; and
route communication transmissions through said wire network.

[c8] A system in accordance with Claim 7 wherein each said communication device is connected to said wire network using one of said network connectivity devices.

[c9] A system in accordance with Claim 7 wherein said network system further comprises at least one of a network hub device, a network switch device, a network repeater device, and a network router device.

[c10] A system in accordance with Claim 7 wherein said wire network comprises a means suitable for carrying data and communication transmissions.

[c11] A system in accordance with Claim 7 wherein said connectivity device configured to operate when said wire network uses a topology of at least one of a daisy-chain configuration, a ring configuration, and a star configuration.

[c12] A system in accordance with Claim 7 wherein said connectivity device further configured to enable SPOC capability within said network system.

- [c13] A system in accordance with Claim 7 wherein said connectivity device further configured to function as at least one of a network fault tolerant device and a network fault management device.
- [c14] A network connectivity device comprising a central processing unit connected to a electronic storage device, a hub module, a switch module, a repeater module and a router module, said connectivity device connected to a wire network interconnecting a plurality of communication devices, said connectivity device configured to:
- utilize said hub module to bring segments of the wire network together;
 - utilize said switch module to provide communication transmissions by the communications devices with independent paths through the wire network such that communication collisions are reduced;
 - utilize said repeater module to amplify communication transmissions such that the distance between the communications devices is extended; and
 - utilize said router module to route communication transmissions through the wire network.
- [c15] A network connectivity device in accordance with Claim 14 further configured to connect at least one communication device to a wire network.
- [c16] A network connectivity device in accordance with Claim 14 further configured to function in a network system comprising at least one of a network hub, a network switch, a network repeater, and a network router.
- [c17] A network connectivity device in accordance with Claim 14 further configured to function in a network system having a topology comprising at least one of a daisy-chain configuration, a ring configuration and a star configuration.
- [c18] A network connectivity device in accordance with Claim 14 further configured to be at least one of a network fault tolerant device and a network fault tolerant management device.
- [c19] A network connectivity device in accordance with Claim 14 further configured to enable SPOC capabilities with a network system.

[c20]

A network connectivity device in accordance with Claim 14 wherein said connectivity device is a network node utilized in a communications network system comprising a plurality of communications devices interconnected by a wire network.

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